

## CLAIMS

1. For use in an ultra wideband (UWB) communication system, a method for communicating binary data as a sequence of UWB pulses using time division multiple access (TDMA), the method comprising:

- allocating a succession of TDMA time intervals to respective users;
- transmitting a first user pulse in a first TDMA time interval;
- receiving a first user return pulse in the first TDMA time interval;
- transmitting a second and other user pulses in a second and subsequent respective TDMA time intervals; and

- receiving a second user return pulse in the second TDMA time interval, and other user pulses in subsequent respective TDMA time intervals;

- wherein each TDMA time interval is selected to be at least twice the propagation time needed to transmit data to a user, to minimize interference effects.

2. For use in an ultra wideband (UWB) communication system, a method for communicating binary data as a sequence of UWB pulses using time division multiple access (TDMA), the method comprising:

- allocating a succession of TDMA time intervals to respective users;
- transmitting multiple data pulses in a first TDMA time interval; and
- receiving multiple return data pulses later in the same TDMA time interval.

3. A method as defined in claim 2, wherein:

- the multiple data pulses are transmitted to a first user; and
- the multiple return data pulses are received from the same first user.

4. A method as defined in claim 3, wherein the method further comprises:

- transmitting multiple data pulses to a second user in a second TDMA time interval; and

- receiving multiple return data pulses from the second user in the second TDMA time interval.

5. A method as defined in claim 2, wherein:

each TDMA time interval is selected to be at least twice the propagation time needed to transmit data to a user, to minimize interference effects.

6. For use in an ultra wideband (UWB) communication system, a method for communicating binary data as a sequence of UWB pulses using time division multiple access (TDMA), the method comprising:

allocating subintervals of each TDMA time interval to different users;

transmitting multiple data pulses in a first TDMA time interval, wherein the data pulses are addressed to separate multiple users; and

receiving multiple return data pulses later in the same TDMA time interval, wherein the return data pulses are received from separate multiple users.

7. A method as defined in claim 6, and further comprising:

transmitting multiple data pulses to multiple users in a second TDMA time interval; and

receiving multiple return data pulses later in the same second TDMA time interval.

8. A method as defined in claim 6, wherein:

each TDMA time interval is selected to be at least twice the propagation time needed to transmit data to a user, to minimize interference effects.